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John S. Miller





ALBERT DE HALLER.

M E M O I R S

O F

ALBERT DE HALLER, M.D.

MEMBER OF THE

SOVEREIGN COUNCIL OF BERNE;

PRESIDENT OF THE UNIVERSITY,

AND OF

THE ROYAL SOCIETY OF GOTTINGEN;

FELLOW of the ROYAL SOCIETY of LONDON, &c.

Compiled, chiefly, from the ELOGIUM spoken before the
ROYAL ACADEMY OF SCIENCES AT PARIS,

And from the *Tributes* paid to his Memory

BY OTHER FOREIGN SOCIETIES,

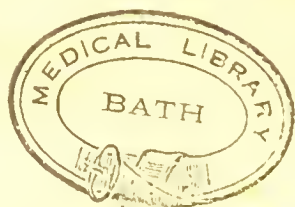
By THOMAS HENRY,

*Fellow of the Royal Society, Member of the Medical Society
of London, and of the Literary and Philosophical
Society of Manchester.*

WARRINGTON,

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TO THE
PRESIDENTS,
VICE-PRESIDENTS
AND MEMBERS OF THE
LITERARY AND PHILOSOPHICAL
SOCIETY OF MANCHESTER.

GENTLEMEN,

THE promotion of the progress and interests of Literature and Philosophy, being the avowed end of the very
A 2 laudable

laudable Institution, which we have so happily established among ourselves ; I feel a peculiar propriety in dedicating to You the Memoirs of the immortal HALLER, whose time and abilities were continually employed, in contributing to the enlargement of the bounds of Science, and supporting the welfare of humanity.

A M O N G the different branches of history, none is, perhaps,

perhaps, more useful, none more instructive, none more entertaining, than Biography. The lives of eminent men hold up to our view, not only objects of admiration, but sometimes of emulation. But the histories of men engaged in destructive wars, or in revolutions effected oftener by the madness, ambition or resentment, than by the patriotism of their conductors, fill the mind more strongly with horror than delight, and, happily,

excite our detestation, rather than stimulate us to imitate them. When we behold an Alexander lamenting that he had no more worlds to conquer, we abhor the destroyer of mankind ; when we see a Marius and a Sylla shedding the blood of thousands and ten thousands of their countrymen, not to promote the interests, secure the privileges, or increase the liberty of Rome, but to establish an unconstitutional dominion over her citizens,

citizens, we shrink from the dreadful narration, and shudder at the recollection of such wanton slaughter, and horrid cruelty; and, surprisèd that such monsters should find favourers and partizans among the people, to effect their own destruction, we are impelled to exclaim,

*Quò quò scelesti ruitis? aut cur dexteris
Aptantur enses conditi? **

NOR are the lives of princes, of statesmen, or of heroes, even

* Horatii Epod. Lib. IV. Od. 7.

of those whose characters are more exempt from vice, or distinguished for virtue, so fraught with utility to the generality of readers, as those of men more upon a level with themselves. The biography of the former may serve, indeed, as has been observed by an ingenious cotemporary writer,* “to enable
“the philosopher to form a
“more complete idea of hu-

* KNOX's *Essays Literary and Moral*, Vol. II. Essay XCIV.

“man

“ man nature, in all the gradations of degeneracy and perfection.” It may tend to deter the great from schemes of vain and delusive ambition ; to raise the spirit of patriotism to attempt the salvation of their bleeding country ; or inspire the foldier with martial ardour, and rouse him to deeds of hardihood, and “ to seek the bubble reputation even in the cannon’s mouth.” * But these are lessons by which few are

* Shakespear.

in circumstances to profit ; and the opportunities for such extraordinary exertions, rarely occur.

VERY different is the case with respect to the biography of men of the middle walk of life, who, though they have peaceably “ held the noiseless tenor of their way,” and their lives may not have teemed with splendid events, yet have lived the active friends of mankind and their fellow

fellow creatures,—have by their doctrines and examples, improved human morals ; by their application and ingenuity, cultivated and increased the arts ; and, by their learning and ready communications, diffused and extended the benefits of philosophy and general science ;—who, instead of passing their lives in luxury and debauchery ; instead of studying, and sedulously making use of, the arts of destruction ; of inventing engines to increase

crease the devastations of war, and the carnage of the human race ; have been employed in correcting their vices, softening their distresses, adding to their comforts, or curing their diseases ; and, by such means, in increasing the prosperity and population of their country.—The diligence, by which they have accomplished these important purposes, is within our reach to copy ; their virtues are of a kind we may imitate ; and their acquirements often such

as

as we need not despair of surpassing, at least of equaling.

*Est quoddam prodire tenùs si non datur
ultrà.**

And even, if we succeed not fully in the attempt, the failure will be productive of no injury.—We shall find ourselves better and wiser men for the efforts we have made.

IMPRESSED with these ideas, I was induced, some time ago, to translate the Elogium of

* Horat. Epist. I. Lib. I.

M. de Haller, from the Memoirs of the French Academy of Sciences, and, at first, intended it solely for the entertainment of our Society, on a vacant night, when we happened to have no original paper before us. Additional materials have, since, been kindly supplied, by the favour of a friend;* and, from the same motives which led to the translation, I have now determined to publish, what I

* Dr. Samuel Foart Simmons.

trust will not be an unuseful article of biography.

THOUGH born with splendid talents, M. de Haller did not, as is too often the case, depend on the native brilliancy of his genius, but eagerly embraced every possible means of improving it; and he was indefatigable in acquiring a knowledge of every science, necessary to his profession and situation. Though deeply skilled
in

in natural philosophy, and intimately acquainted with *second* causes, his piety was undiminished, and he attributed to the GREAT CREATOR of all things, the *primary* direction and government of all his works : and, though strongly attached to his family and the comforts of domestic life, he zealously attended to the discharge of his public duties, as a professor, a citizen, and a magistrate.

To

To your patronage I commit the Volume ; and am happy in this public opportunity of expressing the esteem and affection, with which I have the honour to be,

GENTLEMEN,

Your most faithful Friend,

and obliged, humble Servant,

MANCHESTER,
March 25, 1783.

T. HENRY.

M E M O I R S

O F

ALBERT DE HALLER,

M. D. &c.

ALBERT DE HALLER, Member
of the Sovereign Council of Berne,
President of the Œconomic Society
of that city, and of the University
of Gottingen, Foreign Associate
of the Academy of Sciences of
Paris, and of almost all the learned

B Societies

Societies of Europe, was born at Berne, on the eighteenth day of October, 1708. His father was Nicholas de Haller, Advocate and Chancellor of the county of Baden, descended from an ancient patrician family of the city of Berne, and his mother Anne-Mary Enguel, daughter of one of the members of the sovereign council of that republic.

YOUNG HALLER, in his very early infancy, manifested an uncommon genius, activity of mind, and facility for labour, together
with

with that strength of memory, which is so necessary to those who are desirous of comprehending many sciences, and pursuing their great operations; and that taste for forming collections, which contributed so essentially to the many valuable works which he afterwards published.

BORN of a family which had always been distinguished for piety, he was used, when only four years old, to make short exhortations to the domestics, on texts of Scripture, at the customary family

B 2

prayers.

prayers. When nine years old, he had composed, for his own use, a Chaldaic grammar, a Hebrew and Greek lexicon, and also an historical dictionary, containing more than two thousand articles, extracted from those of Moreri and Bayle.* These collections he con-

* M. TSCHARNER in his Eloge on M. Haller, spoken before the œconomic society of Berne, takes no notice of the first of these anecdotes, but mentions M. Haller having formed, for his own use, rules in grammar, arithmetic, and other sciences; and that at nine years of age he translated Greek, and was acquainted with the rudiments of the Hebrew language.

tinued

tinued till his departure for the university, at which period, the work was grown to a very considerable extent ; but he suppressed it afterwards, as being unequal to his ideas. These premature talents were not the effect of his education ; the mode of which was very unfavourable to their improvement. Young Haller's father was apprehensive that his son's eagerness to learn every thing, would be productive of only superficial knowledge ; nor would these fears have been ill-founded, if he had not possessed an uncommon capacity.

Urged perhaps by these motives, the Advocate placed him under the tuition of a preceptor, who, though he possessed sufficient knowledge of the languages, derived his principal credit from the persecution to which he had been exposed by his religious opinions. This man's behaviour to his pupil, was stern and severe, though his feeble constitution, and ardour for study, only required indulgence and proper direction.

THIS rigorous and pedantic education might have nipped M. de
Haller's

Haller's genius in the bud. The harshness of such a preceptor would have given another child a disgust to study : but it only inspired him with a desire of revenging himself. This he did in a satire against his tutor, written in Latin verse, which he composed at the age of ten years ; though so strong was the impression on his mind, that he never could see him afterwards, without feeling a kind of involuntary terror. A similar circumstance has been related of M. de la Condamine. These facts prove, that children are more susceptible,

than one would imagine, of strong and durable passions; so that frequently the character has taken a bias, and therefore the most important object of education is either fulfilled or frustrated, before we have an opportunity of entering carefully on the direction of it.

M. DE HALLER was only thirteen years old, when he lost his father, who intended him for the Church, and whose property was almost wholly confined to the appointments of his places. But by losing his father and his fortune,
he

he acquired the liberty of chusing the objects of his studies, and became acquainted with 'the necessity of depending entirely on himself. Nay, perhaps it was to these misfortunes, that he owed both his talents and subsequent exalted reputation.

HE was placed for some time at the public school, where he gave many proofs of early genius and uncommon abilities. He passed through his classical examinations before the age that is prescribed, and he translated into Greek, the
theme

theme which was required of him only in Latin. After eighteen months spent in this slow and constrained mode of instruction, he obtained leave to pass some time at Bienne, with the father of one of his school-fellows, who was a celebrated physician, and from whom he hoped to receive some lights on the study of nature; but this new master was enthusiastically attached to the systems of Descartes, and conformable to them was the instruction his pupil received. The young student therefore preferred the fictions of poetry to those of philosophy;

philosophy ; as frequently men of genius prefer the reading a mere romance, to a history mixed with fables. At this time he composed several poems ; and the house, where he resided, having taken fire, he rushed into the midst of the flames to save his verses, and having carried them off, congratulated himself on the preservation of what he then esteemed his most valuable treasures.

PHILOSOPHY, however, soon prevailed ; and within the space of one year only, after this event, his
mind

mind had arrived at such a state of maturity, that he had the resolution to condemn to the flames, the same poems, which he had saved, the preceding year, at the hazard of his life.

AMONG these poems were many satires; a species of composition for which M. de Haller had already shewn considerable talents. This sacrifice, therefore, not only evinced his modesty, but the progress he had made in the knowledge of the human heart. He perceived, that a virtuous man ought rarely
to

to make use of this weapon, which punishes without correcting, and which seems improper to be employed, except against those, whose rank or power protects them from every other punishment.

THE time now arrived when our young student was to chuse his situation; he wished to investigate nature, and he made choice of the only profession, which would allow him to devote himself to that study without reserve, viz. that of physic. It was not, indeed, the profession, which would most certainly lead
to

to fortune and preferment in the state; but it did not exclude him from them. Though the government of Berne have confined their offices to a certain number of families, yet they have not excepted against the useful and learned professions. It was even probable, that the respect, which is generally acquired by enlarged knowledge and superior talents, might prevent the necessity of his forming intrigues, to which others, who pursue the usual routine of acquiring honours, are obliged to submit.

TOWARDS

TOWARDS the end of the year 1723, he went to Tubingen, where he continued his studies, with unremitting ardour, under Camerarius and Duvernoi, and gave public proofs of the progress he made under these professors.

His travels commenced at the age of sixteen, and the full liberty he enjoyed at such an early period, might have been attended with danger, had it not been obviated by a singular circumstance. The great concourse of young men, who frequent the German universities,

fities, are left too much to their own direction. Haller, having entered, with his fellow-students at Tübingen, into a party in a debauch, the excesses to which he was a witness, gave him a salutary disgust to them. From this moment, he renounced wine for ever, that he might be certain to avoid the abuse of it; and in order to guard more infallibly from seduction, he thought himself obliged to observe a rigorous severity in his manners.

ATTRACTED by the distinguished reputation of Boerhaave, he proceeded

ceeded to Leyden, where he arrived in May 1725. Here he met with every thing, that could be agreeable to a mind intent on the acquisition of science. And Boerhaave, who divided his time between his academical lectures and medical consultations, shewed him all the regard, that was due to such rare abilities and eminent merit. Here he found an anatomical theatre, well supplied with subjects; cabinets of natural history; a very extensive library; and, in short, every thing, which could encourage and invite to study. Albinus, though

C

a young

a young man, had given proofs of his talents for anatomy; and the famous Ruysch, the inventor of anatomical injections, was still living at Amsterdam, where he continued his labours at the age of ninety. M. de Haller availed himself of all these advantages. But his health being impaired, he was obliged to take a journey, into lower Germany, in company with two of his friends. On his return to Leyden, he took the degree of Doctor in Physic. The Thesis which he composed on this occasion, displayed the knowledge
he

he had acquired in anatomy, and proclaimed him as an observer capable of enriching that science with many important discoveries. The subject of it was the pretended discovery of a salivary duct by Cowitz, the falsity of which, Messrs. Duvernoi and Haller' exposed both by dissections of brutes and human bodies.

In the year 1727 he went to England, where he was particularly connected with Sir Hans Sloane, who had, at that time, formed a very considerable collec-

C 2
tion

tion of natural curiosities; and he had the pleasure of becoming acquainted with Messrs. Plumtre, Cheselden, and Douglas; men distinguished throughout Europe, for their professional abilities. Having visited Oxford, from England he passed over to France, where he remained but a short time. A body, which he was dissecting at Paris, became offensive to one of his neighbours, who informed against him. Knowing the severity of the laws against those who take up dead bodies, by an error, into which a stranger might easily fall, he
imagined

imagined that they equally extended to the anatomist who dissected those bodies. He determined, therefore, to quit a country, where the research after truth appeared to expose the inquirer to such great danger.

FROM hence he went to Basil, where he studied mathematics, under John Bernoulli; a science which would be useful to an anatomist, as exposing to him the uncertainty of reasoning on mechanical principles, with respect to medicine, and would be a proper preservative

for a disciple of Boerhaave, who, like his master, had been educated in the Cartesian philosophy.

AT Basil also, he first began to study botany, to which he had hitherto professed an aversion. But excited, as he himself tells us, by the genius of the place, where the celebrated Bauhine had resided, and by the example of his friend M. Stahalin, he cultivated the science with such prospect of success, that he even began to lay the plan of the work he afterwards completed and published, under the title of

Enumeratio

Enumeratio Methodica Stirpium Helvetiæ Indigenarum, &c. at a time when he declares, he scarcely knew the most common plants.*

* Ego vero, cum in prima juventute a plantis omnino fuisset alienior, redux ex itineribus, Germanico, Belgico, Britannico, & Gallico, nullâ ullibi stirpe conservatâ, cum Basileæ, ob audiendum Johannem Bernoullium et discenda mathemata, viverem, anno 1728, nescio quo ardore incitatus, ferè genio loci quem Bauhini habitaverant, et tunc colebat Stahalinus, cepi plantâs legere, describere, compilare, tanta cum spe successûs, adhuc remotissimi, ut etiam tunc hoc, quod edo opus, moliri, quando vulgarissimas stirpes vix dum dignoscebam.

PRÆFAT. ENUMERAT.

C 4

M. DE

M. DE HALLER returned to his own country, about the year 1730; he was then in his twenty-second year. The sciences being, at that time, less generally known and esteemed than at present; so strong an attachment to study, and so laborious a way of life, would appear singular in the eyes of his young friends, who passed too much of their time in idle pursuits; and he was exposed to that raillery, which too often succeeds in repressing the first efforts of a young man, and stifling, in its birth, the noble ambition of acquiring distinction.

inction. But he was too firmly attached to literature and philosophy to be affected by such ridicule, and he continued resolute and ardent in his researches.

HIS taste for poetry now also returned, or rather he became a poet a second time; but such as a philosopher ought to be, who had been long occupied in profound studies. His poems contained descriptions of nature, not such as the poets have so frequently and uniformly painted her, such as formerly described by Homer, and dis-
figured

figured by his imitators; but nature in the dress in which Haller himself had observed her; when climbing up the rocks, and traversing the eternal ice of the Alps, he endeavoured to discover her secret operations; poems in which he investigated the depths of the most abstract and insoluble questions in mathematics and in morals; epistles in which he paints the sweets of friendship and pastoral life, the pleasures attending on simplicity of manners, the soft and tranquil charms of virtue, and the happiness ensuing from the sacrifices, which
the

the more strong and austere virtues demand of us. Such are the poems of Haller. While he ridicules and reprobates the corruption of morals, he places hypocrisy in the most odious point of view : he sings the benefits of religion, which teaches us to love and to bear with each other ; and he exclaims against the crimes of intolerance, with that horror, which must be always strongly felt by every virtuous mind, however sincerely attached to particular modes of religion. We might almost suppose that we at once heard Fenelon celebrating the delights of
divine

divine love, and the author of the *Henriade* thundering against fanaticism.

MR. HALLER had formed a friendship with his two countrymen, Mr. Stahalin, who was afterwards professor at Basil, and Mr. Gesner, professor and canon at Zurich, whose character is as amiable, as his knowledge in physics is profound. He has recorded their friendship in his poems; and it is to their encouragement we are obliged for the first perfect fruits of his poetic genius.

HIS

HIS poems were soon translated into French: the nations of Europe saw, with astonishment, the German poetry, which had been hitherto unknown, produce works of so capital a kind, as might even excite the jealousy of nations, who for several years had disputed, amongst themselves, the empire of letters.* Happy in her later birth, she united, at her first outset, that profound philosophy, which dis-

* HIS two philosophical epistles, addressed to Mr. Stahalin, place Haller, in the opinion of some critics, on a level with the philosophical poets of England.

tinguishes

tinguishes the more enlightened ages, and that richness of imagination, which was the happy attendant on the earliest æras of poetry. Perhaps, if we may be permitted to hazard the remark, the German literature owes that justice, which foreign nations have so readily rendered her, and Haller some part of his success as a poet, to the reputation which he had acquired as a philosopher. The literary world heard, with surprize, that the author of these delightful and amiable poems, was a physician, who passed his life in the
midst

midst of dissections, employed in searching out the most secret sources of organization and life ; and the learned saw, with pleasure, that, in the few moments that M. de Haller could afford to dedicate to the Muses, he had, by his merit, acquired a place among the first poets of his nation.

SOME, perhaps too severe, critics have objected to his poems, as too closely imitating the oriental style. This lofty and sublime mode of writing, pleases in the original authors, because it appears to be
the

the natural expression of the poet's ideas, striking even by its singularity, and transporting us to the ages of strong, but uncultivated nature, which afford us such exquisite delight whenever we recur to them. But pleasing, as it may be in *them*, it often offends in the hands of imitators; for it should seem that the moderns, who differ so much from the ancients in their manners and opinions, should neither possess the same ideas, nor use the same method of communicating them; and we are induced to suspect that these oriental imitations

tions are merely the effect of art, in the poet, who wishes to disguise thoughts, which would otherwise appear trite and common, by pompous diction, and a peculiar turn of his periods. No one had ever less occasion for such an expedient than Haller, and this stile has rather served to cover beauties in his poems, than conceal defects.

BUT the charms of poetry were not sufficiently alluring to detach M. Haller from the more severe and useful studies. He only cultivated the Muses in his solitary

D walks,

walks, in those hours of the night, when sleep forsook him, and during those recesses from labour, with which his state of health sometimes forced him to comply. At such seasons, his active disposition impelled him to subject those grand, pleasing, and affecting ideas, which arose in his mind, to the laws of metre and the trammels of rhyme. His immense labours in anatomy, the attentive observation which different diseases require, the necessary subsequent reflections, together with consultations on a great variety of cases, employed a large share of

of

of his time. Nor was he idle during those hours which were not devoted to these duties. And though separated from his masters, his friends and his competitors, deprived of the assistances and encouragements to which he had been accustomed, his own private cabinet, and his select library, supplied the place of academic aids.

HERE he laid the foundations of that vast extent of knowledge, which comprehended every species of literature. The discoveries of every cultivated age and nation,

were extracted in the course of his reading, which he continued, with unremitting attention, during his whole life, without being diverted from it either by the vicissitudes of fortune, or by any embarrassment of his affairs. Possessed of a most happy memory, he had been early accustomed to arrange his knowledge with order, and strictly to estimate its value. The great utility he received from his reading, and the wise application he made of it, have sufficiently justified the avidity for instruction which appeared in his earlier years.

THOUGH

THOUGH his application to the study of botany was rendered more difficult to him by a natural defect in his eyes, being short-sighted, yet he was become so charmed with the science, that in the years 1730 and 1736, he made several botanical excursions. In these he visited the highest mountains of Jura and the Alps, ascending their rugged summits, and forcing his way as far as the Glaciers, though the passage was always attended with fatigue, and, often, with eminent danger.

HE afterwards travelled through the marshes, and, also, through the more temperate and cheerful parts of Switzerland, where the vineyards display their riches, and adorn the plains. In these excursions, he had the pleasure to find, within the limits of his own country, and make a complete collection of, not only the plants which grow in the frozen climate of Norway, but also those that are the product of the softer regions of Italy.—Nor was botany the only object of his pursuits in these excursions. His knowledge was
equally

equally extended to mineralogy, zoology, and to all the other branches of natural history.

HALLER's distinguished abilities, joined with his many amiable virtues, procured him general esteem and regard, and raised him protectors and friends, whose affection was highly useful to his future fortune. In 1734, the republic of Berne established a public amphitheatre, where he taught anatomy. Notwithstanding his youth, he was appointed physician to an hospital; and was also entrusted with the care of arranging the pub-

lic library and the cabinet of medals. In the first year that he undertook this office, he formed a regular catalogue of all the books, and examined, and placed, in their chronological order, five thousand antique medals.

HE was, however, called to quit his country. George II. king of Great Britain, and elector of Hano-ver, being desirous of promoting the prosperity of the university of Gottingen, invited M. de Haller, and established there for him an anatomical, botanical, and surgical professorship.

fessorship. Though his name had not hitherto been affixed to any great professional work, the dissertations he had published, had announced him to anatomists, as a man of superior qualifications. Those, who were then at the head of the profession, discerned in him that knowledge which *might one day* raise him to the *first* rank, but which did not, *as yet*, entitle him to dispute *that* which they possessed. He was arrived at that happy degree of reputation, which, in a man of learning, attracts the esteem, without exciting the jealousy of
his

his cotemporaries. He accepted the invitation of the king of Great Britain : it was at the expence of abandoning his native country ; of renouncing the title, or rather the enjoyment of the rights, of a free citizen ; and of tearing from her family and country, a young wife, whose personal qualities had captivated his heart, who had borne him three children, and who, by the sweetness of manners, with which she adopted his taste and pursuits, formed the principal happiness of his life. But the sacrifice was necessary : at Berne he
could

could not hope for such immediate advantages to secure the fortune of his children. His youth would prevent him, for a long time, from obtaining any places of consequence, which he might hope to enjoy, in the government. He perceived that it was still remembered, that he had shewn a talent for satiric poetry; and though he had burnt his satires, they were not forgotten by his enemies and rivals. It was sufficient that he was known to possess this turn, to give umbrage in an aristocracy. So great is the dread of satire in those constitutions, where

where the great strength of government depends on the opinion which the citizens entertain of its wisdom ; where the chiefs have no other assurance of reigning unmolested, but by concealing from the people, that they are their masters, and persuading them that they are mere magistrates. Besides, these chiefs, who, almost always, have the prudence to affect a modesty, which secures their power by rendering it less odious, being distinguished from the citizens by their prerogatives, but on a level with them in private life, possess
neither

neither titles nor pomp, nor external respect; which, though they may not preserve the grand monarchies from *feeling* the lashes of ridicule, at least prevent their being greatly *bumbled* by them.

M. DE HALLER was aware, that by renouncing his country for some time, and by accepting an office which assured to him the fortune of his family, gave him full liberty to pursue his studies, and afforded him many opportunities of increasing his experiments and discoveries, he should only leave it to become
more

more capable of serving it, contributing to its glory, and returning to it, at some future period, more useful and more considerable. The difficulty of obtaining bodies for dissection at Berne, might be another reason for inducing him to leave it. The history of the interruptions which anatomists have experienced in this respect, from the time of Hippocrates to the present day, is not one of the smallest proofs of the singular inconsistency of man, who, with all his desire for health, neglects, with such indifference, the means of obtaining

obtaining it, and even opposes to it the greatest obstacles; as if mankind, misled by persons interested to prolong their ignorance and misfortunes, were combined with them in a conspiracy against their common interests.

HAVING fixed his resolution, and arranged his affairs, he bade adieu to his country and friends, and set out on his journey to Gottingen. The infirm state of his health, and the difficulty of conveying such young children, in a strange and remote country, rendered their travelling

travelling very troublesome and fatiguing; and it terminated in, what most sensibly affected his heart, the loss of his dear Marianne, who died, at the instant of their arrival, of the consequence of some injury she received by the overturning of the carriage.

M. HALLER entered on his new employments in a very dejected state of mind; and he experienced the want of that consolation which his relations and friends might have afforded him. In the vigour of life, the application of the mental
faculties

faculties to some interesting object, affords the most certain means of weakening the impressions of grief. His efforts to divert his thoughts by labour, were favoured by very encouraging circumstances. The esteem of his colleagues, increased in proportion, as his talents and qualifications became more known. And the regency of Hanover gave him a sensible proof of their approbation, by inviting to Gottingen one of his friends, the learned Mr. Huber of Basil, to assist him in his first essays.

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THE task of teaching a science, in all its parts, to a class of scholars at an university, should seem sufficient to employ the whole time, that society has a right to expect the most laborious man to sacrifice. The objects of medicine include the dearest interests of man, his health and existence. In this science, uncertainty is never indifferent, and error always dangerous, in its consequences. The art is founded on an intimate knowledge of the organization of the human body; a structure, the harmony and proportions of which, though

though most wisely and accurately formed, are liable to be deranged by innumerable accidents. The means of restoring health are exceedingly multiplied, and the selection of remedies as delicate as important. To this science a variety of other knowledge is requisite ; and each species opens an extensive field for inquiry. Every day produces new discoveries, which it is necessary a Professor should not only be acquainted with, but examine and explain. Besides public lectures, private instructions are to be given to his pupils.

The slothful are to be stimulated, the diligent encouraged, those who are slow of understanding, to be more particularly and patiently informed ; and those of brilliant and quick parts, restrained from deviating from the simple paths of nature, and wandering too far into the labyrinths of speculative hypothesis. To effect these purposes requires much time, labour, and application.

NOTWITHSTANDING these important employments, the seventeen years which M. Haller spent at
Göttingen,

Gottingen, were those, in which he executed his great undertakings; and during this period, his superior literary reputation was acquired. The detail of all his researches, nay, the mere list of his works would exceed our present bounds; and it will be necessary to pass over several, which would have been highly ornamental and honourable to any other author, and to confine ourselves to those great works which must certainly immortalise the name of Haller.

HE selected Physiology as the principal object of his studies; a

branch of medicine, which, penetrating into the intimate structure of the various parts of the body, inquires into the laws by which man is formed, developed, grows, lives, re-produces his species, decays, and dies ; in what manner each organ performs its proper motions, and regulates the offices to which it is destined ; by what means the organs, whose necessary functions continually tend to their own destruction, are capable of being repaired by nourishment and sleep ; by what mechanism, a power, the principle of which is unknown
to

to us, sometimes executes, at the command of the will, actions that are necessary to the preservation and prosperity of man, and at other times produces, independently of the will, operations which are essential to his existence. Physiology also investigates the mode in which the changes in these organs, at one time, are the cause, and at another, the effect, of disorders in the vital functions ; what connection exists between the alterations in these functions, and the diseases of the parts which execute them ; and, lastly, in what manner,

remedies of every kind, by their action on these organs, possess the power of re-establishing order in the animal œconomy.

M. DE HALLER was not uninformed, that this Science, having been long devoted to the spirit of system, had become suspicious to philosophical physicians ; but these objections were what he proposed to obviate. He entertained the hope of rendering Physiology as certain as any other physical science : a science by which philosophers might learn the knowledge
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of man, and where physicians might find a basis on which they might support their practice.

To this end, it was necessary to endeavour to establish Physiology on an exact anatomy of man and of other animals; by the latter of which so many discoveries have been made concerning the animal œconomy of our own species, which had not been revealed by the study of the human body. It was necessary to banish, from Physiology, both that metaphysical jargon, which has long served, in
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all the sciences, to cover real ignorance under scientific words, and those theories, whether mathematical or chemical, which have been rejected even by mathematicians and chemists; and are constantly made use of with so much more confidence, or adopted with greater respect, in proportion as the masters or scholars are more completely ignorant of the foundations on which they have been erected. It was necessary to substitute to all these systems, general facts, established by observation and experiment; to possess sagacity to lay hold of these facts; to consent to confess ignorance

rance of their causes, and to acknowledge, that, in all the sciences, there are bounds beyond which it is doubtful whether the human mind will ever be able to penetrate, but which it, assuredly, cannot pass, but by the assistance of time and a long course of labour.

SUCH was the plan which our Professor had formed; and he pursued it with that activity and success, which he has exhibited in his other works, as an accurate and profound NATURAL PHILOSOPHER. He was so truly original in Physiology, that,

that, even in his life time, his contemporaries and rivals placed him in the first rank of classic authors.

BUT it was not till after he had examined, in a numerous suite of memoirs, the important and difficult questions concerning respiration, the circulation of the blood, generation, and the formation of the bones, that he thought himself qualified to comprehend Physiology in its full extent : and even then his first edition bore the modest title of a mere essay. Nor was it till after thirty years of labour and immense

menſe reſearches, that he thought himſelf juſtified in beſtowing on his work the title it merited.

IN this work all the parts of the human body are deſcribed; we have there an opportunity of examining the opinions which have been recommended, or at leaſt advanced, by celebrated authors, who have attributed different uſes to the ſame parts. M. de Haller did not always decide between theſe opinions; ſometimes he proved that they ought all to be rejected. Nothing of importance that had
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been previously published, escaped his observation, and he almost uniformly added remarks of his own to the intelligence he had obtained from books.

WE shall not here enter into the immense detail of errors which Haller has destroyed in Physiology ; of new facts which he has added ; of the ingenious and deep views which he has opened ; of the doubts he has cleared up, or of the theories he has perfected or reformed : this would be to copy the whole of his work. We shall confine ourselves chiefly

chiefly to those subjects, on which he has drawn every thing from his own proper fountain, viz. Generation, the Formation of the Bones, and Irritability.

HIS numerous experiments which have generation for their object were made on birds. The facility of examining their eggs, at almost all hours of their incubation, presented him with advantages which he could not have found, had he made his inquiries on any other kind of animals. He traced the formation of the chicken, from the
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instant in which the first change in the egg is perceived, and the vital speck begins to dilate, to that when the little animal quits the shell in which it has been formed. He saw, if we may use the expression, the organs successively spring up before his eyes, acquire life and motion; saw them transformed and perfected; assume the several dispositions allotted to them in the animal; and beheld the arteries and veins unfold themselves. The vessels of the growing chicken are confused and form a continuity with

with those of the yolk of the egg ; and as these vessels of the yolk are observable in eggs which are unimpregnated, M. de Haller thought himself warranted to conclude that the chicken existed ready formed in the egg, previous to its impregnation. He was equally assured that the foetus is also wholly formed in the females of oviparous animals ; and he regarded this observation as a conclusive proof in favour of the system of the successive developement of germs. He however, perhaps, regarded it as a mere probability ; and would not

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have divested himself of that wisdom which rendered him inaccessible to the spirit of system, if he had not been inspired with a secret propensity to this opinion, by reasons of a different kind.

HE apprehended that the production of an animal, by means purely mechanical, would destroy one of the proofs of the doctrine of providence. But is it not sufficient for those who search, in nature, for proofs of this doctrine, that the phenomena are regulated by certain laws, whatever these laws may be ?

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Is not the cryftallifation of a falt, which constantly affumes the fame form, a phenomenon as admirable as that of the generation of animals? In fhort, the laws which act upon matter, being equally constant, and the phenomena resulting from them uniformly offering the fame regularity, whatever fyftem we employ to explain them, is it not in the wifdom and goodnefs which the whole of thefe phenomena announce, and not in the nature of the powers they produce, that we ought to look for proofs of the exiftence of a fuperior being?

It may appear more singular that M. de Haller should believe religion or morality to be interested in the opinions of philosophers, concerning the formation of organised beings, as he had attacked, in his dissertation on monsters, the identical metaphysical reasonings, which he has since employed in favour of the developement of germs; and he himself had proved, as we shall presently relate, that the repose of a philosopher may be disturbed by these trivial charges, which are often too wantonly made and easily admitted.

IN

IN the experiments on Ossification, M. de Haller traces the progress of the growth and solidity of the bones in oviparous animals. He then examines the formation of a callus in the bones of adult animals. He thought he had discovered, in his experiments, that the bones are, at first, a jelly of a thin consistence, but organised and formed of vessels, originally imperceptible to the sight, as being transparent and filled with a colourless liquid. This jelly afterwards assumes a more solid form: the vessels become visible, and it at last ossifies, by the

blood of the arteries, which pass through it, depositing in it an earthy matter. According to his opinion, the periosteum contributes nothing to ossification, because it has a different organisation from that of the bones; because some bones have no periosteum, and this membrane is covered by calluses or osseous productions; and lastly, because in a foetus, the bones, at the time they become solid, have no adhesion to the periosteum.

THESE opinions of Haller differ from those of Duhamel, who explains

plains the formation of the bones by supposing a successive ossification of the membranes of the periosteum. Indeed some of M. de Haller's experiments would appear difficult of explanation, if we were to adopt the theory of M. Duhamel. Nor is it less difficult to account, on Haller's system, for the formation of bony lamina, and especially for the alternate red and white strata, which are observed in the bones of animals fed, sometimes with their common food, and sometimes with the same food mixed with madder; so that these two

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opinions, both of which are founded on experiments, and advanced by philosophers distinguished for their aversion to systematic ideas, have divided, and still continue to divide, physiologists.

By irritability, M. de Haller means, that property, which certain parts of living bodies possess, of contracting when wounded, or even when touched, independent of the will of the animal that is the subject of the experiment, and without its feeling any pain. A property, which plants seem also
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to partake, and which being distinct from sensibility, does not depend on the same organs. He endeavours to prove, that irritability resides exclusively in the muscular fibres, and sensibility in the nerves: he demonstrates how, in the different parts of the body, almost all of which are mixed with muscles and nerves, the sensibility, they shew, depends on the nerves, and their irritability on the muscles; that those parts which are destitute of muscles are not irritable, and those that are destitute of nerves are not sensible; that if the nerves be divided,

divided, which unite any part to the brain, the sensibility of the part will be lost, while its irritability will remain. The nerve, when separated from the brain, ceases to contract; it only preserves an appearance of motion, because it may serve as a foreign body to excite irritability in the muscle to which it belongs. On the contrary, a muscle, though separated from the living body, still retains signs of irritability; but the power of it is diminished, and ceases in a very short time. He cautions against confounding irritability with elasticity,

ticity, which is a property purely mechanical, and teaches to distinguish the motions which irritability produces, from those merely chemical changes which the application of caustics induces in all the soft parts of organised bodies.

THE work in which M. Haller published these discoveries, formed the æra of a revolution in anatomy. It taught us that there exists in the living body a particular power, which may be regarded as the immediate principle of motion, as a quality diffused through the organs,
which

which enables them all to perform their respective functions. And his disciples boasted that Physiology, which had too long been built on metaphysical and uncertain ideas, might now be erected on the basis of general fact, and verified by experiment.

THE publication of this theory was, however, productive of much controversy. M. Haller defended his opinions with ability and candour. And if we do not subscribe implicitly to his doctrines, we must at least admire the temper with which he conducted the dispute.

BUT

BUT though the difference in opinion of other anatomists, gave him no uneasiness, these discoveries, relative to irritability, were the occasion of very poignant chagrin to their author. On this property of animated matter, Lamettrie laid the foundation of a system of materialism; and he pleased himself in dedicating his book to Haller, and declaring that to him he owed the acquisition of the great truths which it contained. M. de Haller was sincerely attached to religion, from his infancy: he considered Lamettrie's jocularities as a serious insult;

insult; and observed, with horror, that he was held up to Europe, as a favourer of materialism, or, at least, as the inventor of principles which served as a basis for that doctrine. Neither the respect which he had constantly declared for Christianity, in all his works, nor his mode of life, so conformable to the precepts of the Gospel, seemed sufficient to secure him against this imputation. He complained of it bitterly. Lamettrie, in his answer, assumed the same tone: and Haller had prepared to publish a very long and serious refutation

futation of the charge, when he was informed of the death of his antagonist, and discovered, that, deceived by an excess of delicacy, which was doubtless laudable, he, alone, had been made the dupe of Lametrie's irony.

HIS humanity must have suffered in making experiments which could not be conducted without subjecting a great number of animals to most excruciating pains. This would have been purchasing an *useless* fact at too great a price. Haller perceived it. The compassion he felt
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for the victims of his researches, is often apparent in the narrative of his experiments. We behold him, impressed with a kind of remorse; and omitting no occasion of expatiating on the utility which may be derived from them to mankind. He even seems desirous to believe that these animals suffer no pain, and unwilling to renounce the opinion of Descartes. He was convinced that an idle inquisitiveness, or a passion for reputation, could not justify our killing sensible beings in torments: and that whatever reason we may have to
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regard them as formed for our use, it is absurd and cruel to imagine, that they are designed also to be the sport of our curiosity or vanity.

HAVING undertaken to teach botany at Gottingen, Haller formed a catalogue of the plants in the garden of that city, and in this he principally explained his own system of botany. Linnæus had chosen the characters derived from the number of the sexual parts of plants as the foundation of *his* system; M. de Jussieu seemed to prefer those distinctions which are

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formed on the *situation* of those parts : M. de Haller made choice of the mutual relation subsisting between the number of stamina and that of the petals, and in the monopetalous plants, between the number of stamina and the divisions of the calix, as the basis of a new system. This mode appeared to him more constant than that depending on the absolute number of the same parts, and also afforded a greater variety of divisions than could be deduced from their respective position. But he did not confine nor subject himself to a rigorous

gorous pursuit of his system. Those of Tournefort, Linnæus and Jussieu, often supplied him with divisions. Persuaded of the necessity of discovering a natural mode of arranging plants, and disregarding systems, any further than as they are the means of rendering the study of botany less difficult; he considered facility as the first object of an artificial system, and to this he thought it proper to sacrifice both the merit of regularity and uniformity. Few botanists have adopted his system; but in his description of the plants, which

he had observed on the summits of the Alps, the accuracy and beautiful execution of the plates which adorn the work, the deep knowledge of the author, and especially the indefatigable patience, the activity and courage which enabled him to surmount the many difficulties and dangers of such an enterprize, are universally admired.

THESE were Haller's principal works as a philosopher ; but we have not hitherto related all the obligations which the sciences have received

received from this illustrious man. In reading a multitude of books, on all the various branches of physic, he was aware that he should have avoided much trouble and disgust, if he could have procured a kind of catalogue containing at once a comprehensive list of books, an accurate account of their objects, the new information they contained, and also an opinion of the degree of confidence which the author or his works might deserve. He was desirous of preventing others from suffering the useless trouble he had been obliged to undergo, and he

formed the project of four bibliothecas, viz. of anatomy, botany, surgery, and the practice of medicine. He published his first essay of this kind in a commentary on the method of studying Boerhaave's system of medicine. In this, in order to spare his readers the tediousness of a long list of opinions on a great number of authors, in which it would have been difficult to have avoided either a sameness or affectation, he contrived to distinguish the proportionate merit of these authors by a greater or smaller number of asterisks ;

asterisks; and in this list he comprehended even living writers. We may reasonably suppose that very few of these learned men were content with the *number* of their asterisks; though we cannot pretend to say how far this freedom of Haller increased the list of his enemies and critics. But it is requisite that a man, who undertakes to decide on the merits or demerits of his cotemporaries, and is, at the same time, incapable of flattering them, should possess a very uncommon degree of worth, to entitle him to an uncontroverted

superiority of literary character; and if ever the general reputation of a man of knowledge, is an incontestible proof of eminent talents, it must certainly be, in a case like this, in which so many persons are interested in lessening the authority of his decisions. M. de Haller hazarded, at this time, his importance and his repose. He was sensible of the risk, but he did not hesitate. In delivering these opinions, his end was to determine what guides should be chosen by young men who design to enter into a profession, in which
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the lives of their fellow creatures are intrusted to their care ; and he esteemed this to be one of those circumstances, in which the resolution to expose ourselves to that hatred, which is often excited by the wounds given to self-love, may deserve to be considered as a virtue.

IN order to compose these four bibliothecas, it was necessary not only to form extracts of every thing that was useful in the books he had read, but that he should also give in a few words the substance, character and merit of the
several

several works. This talent implies in the critic not only a mind equally correct and regular, but also the art of expressing his opinions with propriety and conciseness.

A REVIEW of new publications had been for some time carried on at Gottingen, by a few private persons. It appeared, to M. de Haller, of sufficient consequence to merit the attention of superior conductors; and, under his auspices, and with his assistance, the execution of it was undertaken by the members of the society. A
work

work of this kind, when performed with judgment, fidelity, and impartiality, by men possessed of proper learning, ingenuity, and diligence, must certainly be highly useful to literature, as well as to those who thus exercise their critical abilities. In examining the opinions of others, our own judgment is improved; we acquire deeper views, and a more perfect knowledge of the subjects in discussion, or behold things appearing in a new form and different point of view. Often from the smallest spark, the most brilliant light is produced,

produced, and we are enabled to make discoveries which might otherwise have remained in perpetual obscurity. The merit of this performance depended greatly on the part Haller took in it. In the whole circle of medical science, in natural history, physics, chemistry, metallurgy, and œconomics, he undertook to review the different articles, and executed the task in such a manner, that if his original works had not already evinced the amazing extent of his erudition, it would have been fully displayed in this literary journal.

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HE excelled, more particularly, as a reviewer of two kinds of writing. The first comprehended accounts of travels and voyages into remote countries, including descriptions of climates and soils very different from our own, and of the genius, disposition and manners of the people. For, partly, his various and extensive reading, and partly, his universal knowledge of science, rendered him a most competent judge of the truth or falsehood of these narratives; and enabled him to illustrate many passages, especially those relative to
natural

natural history. The other class consisted of collections of memoirs, on different subjects, such as the transactions of the various academies and societies for the promotion of literature and philosophy. In his criticisms on these papers he delivered his judgment in so superior a manner, that the reader must immediately perceive him to be a complete master of every subject he investigated.

His criticisms on historical writings were also important and judicious. He was particularly conversant

versant with the French and English historians, and severely censured the levity which pervades the writings of the former. He was so intimately acquainted with the constitution and government of Great Britain, its history and laws, that few of its inhabitants possess a more accurate knowledge of those subjects. His loyalty to the king, and attachment to the royal family, and indeed his partiality in favour of the British nation, in general, were frequently evinced in his strictures on modern historians.

NOR

NOR was his attention confined to the more important concerns of literature. So versatile was his application, that he even condescended to read and criticise romances, and other frivolous publications, which, at first sight, might appear unworthy his attention; but served, perhaps, especially in his more advanced years, to amuse and relax his mind, after the fatigue of more arduous studies. He also procured translations, into the German language, of the best foreign books, and embellished them by prefaces, which were, frequently, elaborate

elaborate and replete with instruction.

M. DE HALLER possessed a true friend, and powerful protector, in Baron de Munchausen, prime minister in the electorate of Hanover, who even prevented his wishes. An affection for the sciences, was the foundation of their mutual friendship; and from thence resulted the attention they paid to the improvement and welfare of the university of Gottingen. Though sensible that great discoveries generally proceed from genius alone,

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Haller

Haller was convinced that learned societies, and establishments for public instruction, elucidate, diffuse and perfect these discoveries.

HE availed himself of his credit with the king of Great Britain, to procure such useful institutions for the university over which he presided. Amongst these was a school for surgery; an academy of sciences; a hospital for lying-in-women, in which the art of midwifery is taught; a collection of anatomical preparations; and a school for design, where the pupils
were

were instructed to delineate, with precision and truth, all the objects of natural history. This last institution is hitherto the only one of its kind; whereas, academies of painting are very numerous.

By this means however, there is a certainty of procuring designers who will be useful to the progress of science; whereas it may be doubted whether the schools of painting contribute to form great painters. The object of Haller's design, though less brilliant, was certain in its effects; an advantage which

the establishments for the promotion of the sciences seem to possess, in general, over those of the arts of imagination. In the sciences, founded on observation and calculation, the more we increase the number of cultivators, the more we contribute to the progress of those sciences; because their gradual progress must result from the combined labours of several persons. On the contrary, the arts depending on the imagination, where every production is necessarily the fruit of the labour of one individual, ought to be cultivated

vated only by those whose genius is capable of great productions.

THOSE sciences which are not only useful, but even necessary, cannot be too much elucidated; because it is requisite that every practitioner should be thoroughly informed. In the arts of fancy, every thing is useless that is not new or brilliant; and a multiplicity of *moderate* performances, instead of forming, corrupt the public taste. In the sciences, a methodical and regular mode of teaching is of certain utility; we have only

to produce a train of facts and truths, and to prove them by calculation or experiment. Every man may be a master, who, to a just understanding, unites extensive knowledge; and the more extensive his talents and information, the more capable will he be of performing his office. In the imitative arts, on the contrary, the only useful kind of study, is that of the most distinguished models; and every pupil should perhaps take lessons from a master of his own choice.

By

By Haller's sollicitation, the regency of Gottingen was prevailed on to build a reformed church for the use of the professors and students of the protestant persuasion, and he undertook the care of superintending the erection of the edifice.

THE interest which he felt in promoting the knowledge of natural history, induced him to join, with other literary men, in a project for sending Mr. Mylius to travel in America, for the purpose of making observations and col-

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lections.

lections. This useful design was patronised by several princes, and though it was first deferred by the levity, and afterwards totally defeated by the death of this ingenious young man, M. de Haller must be allowed considerable merit in having zealously supported a scheme, which has been since put in execution with so much success.

THE numerous services he had performed to the city of Gottingen, merited the rewards of his sovereign, who beheld his projects for rendering

rendering that place flourishing and populous, succeed beyond his hopes. His Britannic Majesty procured for M. Haller, the rank of a noble of the empire, from the imperial chancellor; but though he was created a baron, and has been generally distinguished by that title, he always declined it. Such an honour might have been an advantage to his family, if it had remained at Gottingen, but would have been despised as a badge of vanity, and considered as an odious distinction in Switzerland, where, instead of such nobility

bility as is to be met with in monarchical governments, the powerful families have acquired hereditary prerogatives, of more intrinsic value.

DURING his residence at Göttingen, he enjoyed every advantage he could desire; the public regard, the esteem of learned foreigners, the success of his establishment for the sciences, the pleasure of making useful discoveries, and the high reputation which his works deserved: but domestic misfortunes embittered his life. It has been
already

already observed that his first wife died soon after his arrival at Göttingen. In a very elegant poem, entitled *Doris*, he expressed the most tender attachment, and described, with all the energy of a heart deeply impressed, his sincere grief for the death of this amiable woman. Two years after he espoused a second wife, who died in a few months after marriage; and he has celebrated her memory in another monody. His consoling himself so soon after the decease of his first wife, had rendered him less an object of compassion with many, who

who might think to promote an opinion of their *own* sensibility, by degrading *his*: but perhaps M. Haller was not at all inferior in delicacy to those who so severely condemned him. A third marriage which he contracted, proved more fortunate, but subjected him to fresh censure. It should seem as if he would have been more pardonable in the eyes of these declaimers, if he had taken three mistresses, than married three wives. It is not surprising that his conduct should be more severely scrutinized than that of other men:

but

but why should he have been envied the tranquil and innocent pleasures of domestic life, when his austerity and ardour for study had deprived him of all other modes of dissipation? Should we not consider how much would have been lost to the sciences, if Haller had remained inconsolable for his losses?

Few men of learning have received so many marks of consideration from their cotemporaries as M. Haller. He was invited to Oxford upon the death of the famous Dillenius, who had expressed a wish
upon

upon his death-bed, that Haller might succeed him. When Albinus was nominated one of the deputies to the states general, his place at Utrecht was offered to Haller; and the king of Prussia also proposed to him an establishment at Berlin, on his own conditions.

HE resisted all these solicitations. The love of his country had been ever prevalent in his mind, and, strange as it may appear to those who are unacquainted with that patriotic spirit, which influences a Swiss to prefer a moderate, but independent

dependant situation to great titles and the parade of riches, the more obscure distinctions of his native country were more acceptable to him than the brilliant offers of foreign honours. His bad state of health was an additional motive. He had been subject to inflammatory disorders, the disposition to which had been increased by study and close application, and he found the moist atmosphere of Gottingen prejudicial to him. The too great tension of his nerves daily increased their sensibility, and he also became

came nearly deprived of the use of one of his hands.

AFTER an absence of seventeen years, he returned home in the year 1753. His departure from it had produced the effect which might be expected. The same man, who was beheld with a kind of terror when present, was no sooner gone, but he was regarded as the honour and glory of his country. On a visit which he made to Berne in the year 1745, he was elected a member of the sovereign council; a title which enabled him
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to fill several places in the government. One of these fell to him by lot in 1753. This, which is the manner of electing magistrates at Berne, may, at first sight, appear singular ; but when it is considered, that it only decides between men who have already been chosen, as qualified for the office, by the voice of their fellow citizens, perhaps it may be attended with fewer inconveniences, than those elections where influence and canvassing are necessary. The advocates for this mode of election argue, that it is one of the most important considerations

siderations in a political constitution, not to expect, from individuals, a more than ordinary degree of virtue, and even to suppose them liable to be seduced by the general vices of mankind. We ought not, therefore, to suppose, say they, that in giving their suffrages to fill up a particular department in the magistracy, the majority of citizens should sacrifice their particular views, or those of their family or friends, to the interest of their country; and it may be less dangerous to trust to chance, than to the decisions of ambition and intrigue.

trigue. But it may be urged on the other hand, that it is not probable that the bulk of the electors should be so egregiously corrupt, or be so misled by interested or ambitious views, as to sacrifice their real welfare, and be induced, in choosing the members who constitute their senate, to give the preference to men deficient in principle or abilities. Were it not better, therefore, to rely on the honesty of the people, than abandon a matter of such high importance to the blind decision of fortune?

WE come now to view M. de Haller in a new station, in which it has been generally supposed that a man devoted to study can never hope to succeed. It must be unnecessary to confute this opinion in an age which has produced so many instances in contradiction to it. There are certain parts of government naturally so connected with philosophical knowledge, as, perhaps, only to be successfully conducted by men who have made some progress in the sciences. The government of Berne had therefore reason to congratulate themselves

on

on the acquisition of a member so profoundly skilled in many branches of natural philosophy ; and he was accordingly employed in those departments where such qualifications were requisite.

THE administration of the salt works was brought to perfection by Haller, not, as might be imagined, by increasing the revenue arising from them, but by rendering the works less burthenfome to the public. By lessening the price of salt, he promoted the interests of the people, and he paid

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a strict attention to their health, by neglecting no means of rendering this necessary article more pure and free from adulteration. He diligently attended to the establishment of an hospital for orphans, where they might receive such sound education, as would render them useful members to the state, regulated with a strict œconomy, suited to the circumstances of a government, which, not having the power of increasing its revenues by taxes, is in that happy state of impotence to admit of a new article
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of expence, without curtailing those that are less necessary.

HE likewise laid a plan for a school, designed for the education of the opulent citizens; where they might be qualified to fill the principal offices of the republic, and might be instructed, not so much in those points, which the grammarians of the seventeenth century esteemed the most essential branches of education, as in those which the philosophers and men of learning, of the present age, have judged to be essential to the interests of humanity.

M. DE HALLER knew how greatly the ministers of country parishes may contribute to the happiness of their congregations, when their income enables them to join immediate, and judiciously distributed, relief to their spiritual consolations. When rendered superior to that necessity which is the parent of low passions and narrow views, they are capable of uniting knowledge with virtue, and of instructing and edifying at the same time. He perceived also the necessity that pastors, whose office it is to guide and inform others, should be independent

dependant of those men, whose prejudices and vices it is their duty to resist ; and should have no interests that may render them inimical to those to whom they ought to perform the office of comforters and friends. He therefore prevailed on the government of Berne to augment the appointments of the clergy of the Pays de Vaud, and he was intrusted with the distribution of their increased salary.

THERE is a council of health established at Berne, whose office is

is not only to guard against such abuses as may affect the lives of the common people, but attend to their necessary assistance. We are not to expect from the populace either attention to their health, or precaution against extraordinary misfortunes. They seem as if they thought their lives of little consequence to *themselves*, but very important to their *superiors*, whose business, they therefore esteem it, to provide for their preservation. We find tribunals of this kind in almost every country, where the governors, being not greatly distinguished

tinguished from the people, may expect to partake of their diseases and dangers; and these establishments are the more necessary, as, without the superintendance of men of extensive information, ill-grounded fear would prevent the adoption of many new improvements, or afford sanction to dangerous prejudices, and would frequently give rise to precautions of so tyrannical or ridiculous a nature, as to be nearly as dangerous, as the evils they are designed to eradicate.

It is needless to observe that we are not here describing a tribunal

bunal composed of physicians only ; for it is possible that they may be influenced by prejudices or interests different from those of the people ; but a tribunal of magistrates well informed in medicine, and possessed of a philosophy capable of elevating them above the prejudices, even of the learned. It is easy to perceive the influence M. de Haller was intitled to, in a council of health ; and he employed the authority, with which he was invested, in making a brisk attack on a set of men, known in Switzerland by the name of *Meiges*, who
impose

impose on the credulity of the common people, from whom they obtain credit for their skill, in proportion as they boast of being uninstructed in medicine. This confidence is increased by their modes of reasoning being founded on ideas analogous to the popular opinions, and consequently more intelligible, and likely to impress the minds of the multitude; by their almost constantly uniting superstitious remarks with their medicines; by their sometimes employing simple, and sometimes very hazardous medicines; and frequently using
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arcana which they have picked up by chance, or boast to have been revealed to them by the particular favour of providence: and they often rise in the opinion of the common people, by pretending to the possession of an universal medicine; a convenient kind of expedient, by which the physician is excused from every kind of study, and the patient insured from every possible error.

M. DE HALLER was desirous to prevent the accidents which too frequently happen from the ignorance

rance and criminal rashness of these empirics; and to counteract the, perhaps, greater evils, which the ridiculous prejudices they had either introduced or established, had implanted in the minds of the people.

He was, however, sensible how necessary it is to respect the natural right and liberty of the patient, to chuse the person from whom he expects to receive consolation and aid. And, perhaps, the only method of preserving the common people from their ill-placed confidence in these quacks, without infringing

infringing on that eternal and unchangeable rule of right, which ought to be the regulator of every law, would be to confine our restraint to their impostures only, and to oppose their ignorance by increasing the means of instruction and information.

M. DE HALLER also had a seat, for some time, in the supreme consistory, and in the chamber of appeals for the German part of the canton, the sentences of which tribunal can be reversed only by the sovereign council. And, on
account

account of the troubles at Geneva, and of the project, approved by the French ministry, of building a town and port at Versoix, on the banks of the Lake of Geneva, he was appointed, with three other members of the grand council, to act in conjunction with the secret council of state. He was called on to take a part in these important concerns, from the high opinion his fellow citizens entertained of his zeal, and he fully justified their confidence by the most spirited exertions of his abilities. His pen was also employed in the public

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service,

service, in drawing up various state memoirs, and writing letters on public occasions. Among other papers of a public nature, he was the author of the directions for preventing the epidemic disorder among the horned cattle, and of the methods for recovering to life persons who had been drowned or suffocated.

UNACCUSTOMED to admit of any opinion, without recurring to first principles, and collecting all his ideas on the subject by methodically committing them to writing, he
had

had not been long concerned in the government, before he had formed a regular and complete system of political œconomy. This system he delivered in three publications, comprised in the form of romances. In the first, Ufong, a virtuous and sensible despotic monarch, makes a great nation happy, by encouraging justice and morality. In the second, the sage Alfred, who is supposed to be the sovereign of a country, where the nobility and people have preserved their rights to a share in the government, gives perfection to the laws,

K 2

encourages

encourages commerce, arts and sciences; holds the balance between the different interests, with a firm and equitable hand, and corrects abuses by paying regard to established forms. The third affords a picture of an aristocracy. In these three works we behold the humane and virtuous philosopher: But perhaps, one common defect may be objected to them all, viz. that talents and virtues are attributed to those who govern, superior to the rest of mankind. It should seem, on the contrary, to be the best policy in those governments,

ments, where power is hereditary, to determine on the most salutary laws, without expecting to find, in princes, better intentions or greater degrees of virtue, judgment, understanding, or courage, than are possessed by the generality of men, who have received a proper education. These works are incomplete, as not containing a fourth part, which should have described a perfect democracy. But the execution of this part of the plan would have exposed M. de Haller to the danger of giving offence to the aristocratic spirit, which pre-

K 3

vails

vails at Berne. The limits of these states are sometimes so slightly separated; the transition from one to the other is often so easy; and, in short, in aristocratic republics, where there is always a popular party, the impossibility of a well regulated democracy is so generally the only public argument opposed to it, that we must not be surprised that the democratic romance, which seems so necessary to complete M. de Haller's political works, should have been entirely omitted.

HIS

HIS attention, however, to his duties as a magistrate, did not entirely take him off from his physical pursuits. His experiments on incubated eggs were made at Berne ; he diligently employed himself in completing his physiology, arranging his bibliothecas, and collecting his scattered works under different titles : he continued to send memoirs to most of the learned societies of which he was a member : it would be too tedious to recite the titles of these papers ; but such was their merit, that they would of themselves furnish ma-

materials for the eulogium of any other person. He also furnished the supplements to the Encyclopedie, with articles on the subjects of anatomy, medicine and physiology. That extensive knowledge, and deep penetration, which distinguish all his physical works, are still more striking in these articles, in which the nature of his work obliged him to insert a greater number of ideas in a small compass, and the reader is at once astonished at the precision and elegance of his style. In some small tracts which he wrote in French, we discover a
gravity

gravity and strength of diction, joined to a purity of language, and propriety of expression, which would have been meritorious even in a Frenchman, and cannot be sufficiently admired in a foreigner; and he enjoyed the peculiar distinction of being a great poet in the German, and an eminent prose writer in the French language.

DURING the time he resided at Roche, he made several botanic excursions into the neighbouring mountains. His advanced age made these journeys troublesome
to

to him, but they contributed to give greater perfection to the last edition of his collection of plants, indigenous to Switzerland. In a journey which he took into the Vallais, in 1757, he was in imminent danger of falling, in his carriage, from a wooden bridge, into a torrent which rushed at the bottom of a precipice.

As perpetual president of the academy of Gottingen, he remitted not, during his absence, his attention to their interests. And his Britannic Majesty, on the death of
M. de

M. de Mosheim, offered Haller the chancellorship of the university. Being warmly solicited by the Regency of Hanover to accept of that office, and divided between his attachment to his country, and the proper gratitude he owed to his royal patron, he communicated the offers that had been made him, to the sovereign council of Berne. The republic, desirous of retaining, and fixing him more firmly to the service of the state, assured him of their wish, and settled a pension on him for his life. He preferred this invitation to the greater advantages

vantages he might have received abroad; and made use of it as an apology to the Regency of Hanover. His Britannic Majesty himself having written to the republic to demand him, the proposal was declined in a manner the most satisfactory to him.

HE afterwards excused himself to Lord Marshal Keith, who in the name of the king of Prussia offered him the chancellorship of the university of Halle, vacant by the death of the celebrated Wolf; and likewise to count d'Orlow,

d'Orlow, who proposed to him an establishment at Petersburgh. The king of Sweden sent him the order of the Polar Star, and the warm terms, in which M. le count de Scheffer assured him of the esteem of his Majesty, added to the value of the favour.

ALL the learned societies in Europe vied with each other in evincing their regard for him. The academy of sciences at Paris, who can only dispose of eight places in favour of foreigners, bestowed one of them on M. Haller
in

in 1754, and the count d'Argenson acquainted him of his nomination. No less than thirteen other literary academies or societies, after his return to Berne, were desirous of inserting his name in the list of their members.

SUCH was the esteem with which he was regarded wherever the sciences were cultivated, that all strangers, even the sovereign princes who travelled into Switzerland, paid a kind of homage to his reputation and learning, by personally visiting him. During his last illness,

illness, he was honoured by the company of that illustrious traveller, the emperor of Germany, who remained a considerable time with him in familiar conversation.

M. DE HALLER was born with a delicate constitution, which he had strengthened by temperance ; for the only excess he indulged in was, the most excusable of all others, that of study. But though the effects of intense application to letters, on the constitution, are often slow, they are, in general, severely felt at some period of life. It has
been

been already mentioned that he was subject to inflammatory disorders, and he had also suffered several attacks of the gout; but in the last years of his life he was afflicted with a disease in his bladder, which proved fatal to him, after a long continued series of most excruciating pain. Opium was the only medicine that afforded him any relief; and if it must be allowed that it shortened his days, it certainly mitigated the torments of the latter part of his life. It was even happy for him that opium, which generally benumbs or disturbs

turbs our faculties, did not deprive him of the power to pursue his studies. But a few days before his death, he employed himself in his favourite occupation of re-touching his works; and though reduced for a long time to the necessity of confining himself to his house, and even to his room, he continued to enjoy the society of his friends. And in this situation he received the best recompence of a good father of a family, in the affectionate and constant attention of his wife and children.

IN the midst of these sufferings, he put the finishing hand to his physiology; and he drew up a regular journal of his disorder, which he sent to the academy of Gottingen. Supposing the abilities to be equal, the patient himself should be more capable of making observations than any other person; but unfortunately a sick man has seldom that serenity of mind to be an accurate observer. M. de Haller perceived the approach of death, and confiding firmly in that God whom he had faithfully served, and prepared to render to him an account

count of a life which had been spent in the study of nature, and in doing good to his fellow creatures, he looked forward to his dissolution without dismay or impatience.

HE desired his friend and physician, M. Roffelet, not to conceal from him his real situation; and this gentleman ventured to tell him that the autumn of 1777 would probably be the period of his existence. Haller exhibited no signs of fear at the information; continued his usual modes of life;

and in his last moments employed himself in marking the decay of his organs. He felt his pulse from time to time: "My friend," said he, to M. Roffelet, with great tranquillity, "the artery no longer beats," and immediately he expired. He was gathered to his fathers, at the age of sixty-nine years, on the 12th day of December, 1777. Humanity had, in this year, reason to deplore the loss of several extraordinary men, who seemed born to explain or defend her rights. In less than eight months she lost Jussieu, Haller, Linnæus,

Linnæus, Voltaire and Rousseau. Surely never was there an æra equally fatal to science and literature, nor did they ever, in so short a space of time, experience such great and multiplied losses.

M. DE HALLER was most agreeable in conversation. His elocution was free, strong and concise; and his knowledge most distinguishedly diversified. His immense reading, fertile and faithful memory, and sound judgment, gave satisfaction to men of all dispositions. He was superior to the

L 3 affectation

affectation of wit; and disdained to make a parade of the knowledge he possessed. His soul was gentle, and his heart replete with sensibility. All his writings are expressive of his love of virtue. Ever pure in his own morals, he beheld with regret the neglect of them in others; and sincerely lamented the influence which irregularities in private life seemed likely to produce on the manners of the state.

RELIGION was the object of his most serious inquiries, even from
his

his earliest youth. His comprehensive mind, ever capable of a just mode of thinking, had been happily impressed with the grand idea of a God, the great origin of all beings, and with the belief of eternity, “that ancient source
 “as well as universal sepulchre of
 “worlds and ages, in which the
 “duration of this globe is lost as
 “that of a day, and the life of
 “man as a moment.” Persuaded of a future life, he waited with confidence for that consummation which shall dissipate the mists of human wisdom, and display to us

the universe such as it actually is, by the light of a new luminary, emanating from the Divinity himself.— It was impossible that a spirit thus elevated, and constantly employed in researches after truth, could neglect to inquire into that most important one, the religion of his ancestors and of his country. Convinced of the reality of revelation, by diligently studying the scriptures, he could not behold, with indifference, any attacks on this fundamental law, this strongest band of society; and, at a time, when other illustrious men prostituted

tuted their fame and talents in making dangerous attacks upon religion, he thought it his duty to enter the lists as her avowed champion and defender.

Few learned men have been born with so active a disposition, and few have lost so little time as Haller. His life was spent in his library, surrounded by his pupils, by his friends, by his fellow citizens, his children and his wife, whom he had inspired with a taste for the sciences, and who all were employed, under his inspection, either

either in making extracts from books, or delineating plants and animals.

A CONSIDERABLE increase in his bulk, weak eyes, and the habit of writing in so small a character, as to be almost illegible, necessarily rendered application to literary pursuits more difficult.. Yet so absolute was the dominion of his taste for study, that he could not abstain from writing and reading, without reserve, immediately after his meals, and at unseasonable hours of the night. His impatience
was

was even so great under the constrained abstinence from these pursuits, which sickness sometimes occasioned, that he appeared more anxious to curtail the duration, than to eradicate the principles, of his malady. Nay, such was his activity, that, once, when he had broken his right arm, the surgeon, when visiting him the next morning, was surprised to find him writing, with sufficient facility, with his left hand. And it is surprising, that with such intense application, he should arrive at so advanced an age: for his whole life was, in
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the strictest sense, one continued sacrifice of his pleasures and health to his love of science.

M. DE HALLER was, in his person, tall and well proportioned. His countenance, which had acquired a serious cast, from his short sight, and the habitual tension of his muscles, was full of expression, and changed in proportion to the degree of energy in the ideas which occupied his mind.

M. DE HALLER had eleven children. One of his sons, who is a
member

member of the fovereign council of Berne, treads in the steps of his father, and, like him, is occupied in the cultivation of science and the service of his country.

M. HALLER's place, as a foreign affociate, in the French academy of sciences, was supplied by M. Tronchin, who had likewise been a disciple of the celebrated Boerhaave.

P O S T S C R I P T.

HALLER carried on a correspondence with several learned men in every part of Europe; the following list of those in this kingdom, who were so happy to enjoy that favour, was sent over by his son, and may not prove unacceptable to the reader.

John Balfour.

Earl of Bute.

George Clifford.

Lord Carteret.

Peter Collinson, F.R.S.

W. Cowper.

Dillenius.

Dillenius.

Robert Emmett.

Matthew Flemyng.

John Reinhold Forster, F.R.S.

George Grierfon.

William Hudfon, F.R.S.

John Hill.

William Hunter, M.D. F.R.S.

N. Jenty.

James Johnstone.

J. A. de Luc, F.R.S.

Cromwell Mortimer, Esq.

Alexander Monro, M.D.

Donald Monro, M.D. F.R.S.

M. Maty, M.D. F.R.S.

David Macbride, M.D.

Turberville Needham, F.R.S. &c.

Sir John Pringle, Bart. M.D. F.R.S.

&c.

Thomas

Thomas Percival, M.D. F.R.S. &c.

Thomas Pennant, Esq. F.R.S. &c.

Joseph Planta, F.R.S.

Robert Ramfay.

Sir Hans Sloane, Bart. M.D. F.R.S.

Humphrey Sibthorpe, M.D.

J. Sutton.

J. Sackville.

John Strange, Esq. F.R.S. &c.

Samuel Foart Simmons, M.D. F.R.S. &c.

Rodolph de Valltravers, Esq. F.R.S. &c.

Robert Whytt, M.D.

Arthur Young, Esq. F.R.S.

HIS valuable library, consisting of 13512 volumes, on the subjects of anatomy, surgery, the practice of physic, botany and natural history,

tory, including his diaries, herbaria viva, and near 150 manuscripts, mostly written with his own hand, was offered to sale to some of the London bookfellers, a number of whom agreed to unite in treating for it. But before they had taken any further measures, it was purchased by that truly patriotic monarch, the emperor of Germany.

T H E E N D.



E R R A T A.

Page 23, erase the mark over *Plantas*.

90, line last, for *Society*, read *University*.

Speedily will be published,

E S S A Y S,

CHIEFLY ON THE

CONSTITUTION OF THE ACIDS,

BY M. LAVOISIER:

TRANSLATED FROM THE FRENCH,

BY THOMAS HENRY, F.R.S. &c.











